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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,553	08/27/2001	Michael A. Masotti	2594/01103	4982
7278	7590	04/07/2005	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			THOMPSON, JAMES A	
			ART UNIT	PAPER NUMBER

2624

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,553

Applicant(s)

MASOTTI, MICHAEL A.

Examiner

James A Thompson

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2624

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites that "each group includes n-1 dots" and "reducing the sizes of n-1 of said dots to values which are less than the value of the remaining dot". However, if there are n-1 dots in each group and the size of n-1 dots are reduced, then there is no remaining dot to compare the values of said n-1 dots with. The language of claim 5 is therefore inherently contradictory.

For the purpose of evaluating the claims over the prior art, Examiner will interpret claim 5 to read "[a]n AM half-tone printing process according to claim 3, wherein each group includes n dots ...", which avoids this contradiction, and is consistent with both the specification and the similar language recited in claim 4.

Claims 6 and 9 both depend from claim 5 and are therefore also rejected under 35 U.S.C. 112, second paragraph.

Art Unit: 2624

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Tai (US Patent 5,204,753).

Regarding claim 1: Tai discloses representing at least some shades of gray by groups of equally spaced dots (figure 4 of Tai) in each of which some dots are smaller than at least one other dot in the group (figure 3; figure 4; and column 5, lines 1-6 of Tai).

Regarding claim 2: Tai discloses that the average size of the dots in a single group (figure 3(dot size 4) of Tai) corresponds to a predetermined dot value for the group as a whole (column 5, lines 12-18 of Tai). The average size of the dots of the single group shown in Tai is dot size 4 (figure 3 of Tai). As the desired gray level increases, the dot size is increased to each predetermined dot value for the group as a whole (column 5, lines 12-18 of Tai).

Regarding claim 3: Tai discloses that there is a predetermined minimum size for at least one other dot (figure 4 and column 5, lines 25-32 of Tai). In the example shown in figure 4 of Tai, for a gray level of 12 in the group shown, one dot is at the maximum size of 7, which requires that the other dot be size 5, which is a predetermined minimum size.

Regarding claims 4 and 5: Tai discloses that each group includes n dots (figure 3 and figure 4 of Tai), and gray values

Art Unit: 2624

below a predetermined transition value are represented by reducing the sizes of $n-1$ of said dots to values which are less than the value of the remaining dot (column 5, lines 20-24 and lines 33-36 of Tai). Each group has a particular (n) number of dots, as clearly shown in figures 3 and 4 of Tai. At a particular gray level value, an individual dot has reached its full size. Above this value, the next dot must begin growing until the next dot reaches its full size (column 5, lines 20-24 and lines 33-36 of Tai). Therefore, in the example specifically discussed in Tai, if the gray level is below the transition value of 14 and above the value of 7, then the first grown dot will be at the maximum size, the second dot will be at less than maximum size, and the other dots will be at zero size. If the gray level value is less than 7, which is also less than the transition value of 14, then the first grown dot will be at the size corresponding to the gray level and all other dots will be at zero size.

Regarding claim 6: Tai discloses that different matrix sizes, cell shapes, and priorities can be used than the one specifically shown in the example of figure 3 of Tai (column 5, lines 38-41 of Tai). Using a halftone cell matrix size such that $n=4$ would produce up to 28 gray scale levels for the size of dots in the example, or 4 times the number of available dot sizes if another collection of dot sizes are used. The use of such a matrix size would be well within the abilities of one of ordinary skill in the art, would be used for particular applications, and is within that which is disclosed by Tai. Tai therefore fully discloses that $n=4$.

Regarding claim 9: Tai discloses that a desktop publishing computer (figure 1(16) of Tai) couples digital information to a

Art Unit: 2624

raster image processor (figure 1(18) and column 4, lines 30-34 of Tai) to form individual halftone separations (column 4, lines 34-41 of Tai), said minimum size and transition value being determined by said desktop publishing computer (column 4, lines 34-38 of Tai). Since the entire gray level processing is performed by the desktop publishing computer ("controller" in Tai) (column 4, lines 34-38 of Tai), then said minimum size and transition value are determined by said desktop publishing computer.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tai (US Patent 5,204,753) in view of Keithley (US Patent 6,028,677).

Regarding claim 7: Tai does not disclose expressly that said minimum size and transition value are variable.

Keithley discloses using a variable threshold value in halftoning (column 3, lines 59-64 of Keithley).

Tai and Keithley are combinable because they are from the same field of endeavor, namely halftone image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a variable minimum

Art Unit: 2624

size and transition value, since a variable threshold for the gray level values is directly related to the transition value, and the minimum size would be variable as a consequence of what particular value was set for the variable transition value. The suggestion for doing so would have been that, if utilizing a variable threshold value, in the case of Keithley (column 2, lines 50-55 of Keithley), produces an improved halftoning by reducing pattern artifacts in the resulting image (column 2, lines 27-35 of Keithley), then using a variable minimum size and transition value, which are directly related to the threshold values, should also reduce pattern artifacts in the resulting image. Therefore, it would have been obvious to combine Keithley with Tai to obtain the invention as specified in claim 7.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tai (US Patent 5,204,753) in view of Keithley (US Patent 6,028,677) and Farber (US Patent 5,496,684).

Regarding claim 8: Tai in view of Keithley does not disclose expressly that the printing process is a flexographic printing process.

Farber discloses a flexographic printer (column 16, lines 27-31 of Farber) for performing halftone processing and printing (column 16, lines 11-14 of Farber).

Tai in view of Keithley is combinable with Farber because they are from similar problem solving areas, namely how best to design halftone dots for printing halftone images. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the flexographic printer taught by Farber to print using the printing method taught by Tai in

Art Unit: 2624

view of Keithley. The suggestion for doing so would have been that a flexographic printer is simply another printer available that can be selected for use by one of ordinary skill in the art. Therefore, it would have been obvious to combine Farber with Tai in view of Keithley to obtain the invention as specified in claim 8.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hwai-Tzuu Tai, US Patent 5,200,831, 06 April 1993.

Hwai-Tzuu Tai, US Patent 5,258,849, 02 November 1993.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
30 March 2005



THOMAS D.
~~LEE~~ LEE
PRIMARY EXAMINER